## CLAIMS

1. A motion picture encoding or decoding system, characterized by being furnished with a processor for encoding or decoding motion pictures formed of a plurality of frames in the unit of frames and provided with at least one failure avoiding means adapted to calculate a necessary volume Kp of operation required for encoding or decoding one frame, decide an operating frequency F capable of encoding or decoding the necessary volume Kp of operation within a duration T e allocated in advance to the operation of encoding or decoding the one frame, perform the operation of encoding or decoding the one frame while continuing the operation of the processor at the operating frequency F and an operating voltage V befitting the operating frequency F, and avoid the failure situation which occurs when the necessary volume Kp of operation is smaller than the actually necessary volume of operation.

2. A motion picture encoding or decoding system according to claim 1, wherein the necessary volume Kp of operation to be used in implementing the operation of encoding motion pictures on the assumption that the frame in the plurality of sequential frames which is subjected to the encoding operation prior to the aforementioned one frame is designated as the preceding frame is calculated by using at least one of the elements comprising the amounts of motion of the aforementioned one frame and the preceding frame, the amount of activity of the aforementioned one frame, the amount of activity of the preceding frame, the average value of the quantized step size of the preceding frame, the difference between the average value of the quantized step size of the preceding frame and the average value of the quantized step size of the frame further preceding the preceding frame, the number of times of macro block matching of the preceding block, the number of valid blocks of the preceding frame, the number of valid coefficients of the preceding frame, the volume of operation actually required in encoding the preceding frame, the number of bits occurring in the preceding frame, the encoding bit rate of the aforementioned one frame, the frame type of operation selected between the intra frame encoding and the inter frame encoding t be performed on the aforementioned one frame, and the necessary volume of operation for the preceding frame.

3. A motion picture encoding or decoding system according to claim 1, wherein the necessary volume Kp of operation to be used in implementing the operation of

and the necessary volume of operation for the preceding frame.

3. A motion picture encoding or decoding system according to claim 1, wherein the necessary volume Kp of operation to be used in implementing the operation of decoding motion pictures on the assumption that the frame in the plurality of sequential frames which is subjected to the decoding operation prior to the aforementioned one frame is designated as the preceding frame is calculated by using at least one of the elements which comprise the number of bits of the encoding data of the aforementioned one frame, the frame encoding type selected between the intra frame encoding and the inter frame encoding which has been performed in the aforementioned one frame, the average value of the magnitude of motion vector of the aforementioned one frame or the preceding frame, the dispersion of the magnitude of the motion vector of the aforementioned one frame or the preceding frame, the number of valid blocks of the aforementioned one frame or the preceding frame, the number of valid coefficients of the aforementioned one frame or the preceding frame, the bit rate of the aforementioned one frame or the preceding frame, the amount of codes of the aforementioned one frame or the preceding frame, the average value of the quantized step size of the aforementioned one frame or the preceding frame, the difference of the average values of the quantized step size (the difference between the quantized step sizes of the aforementioned one frame and the frame further preceding the preceding frame or the difference between the quantized step size of the frame preceding by one frame and the quantized step size of the frame preceding by two frames), the necessary volume of operation actually required for decoding the preceding frame, and the necessary volume of operation for the preceding frame.

4. A motion picture encoding or decoding system according to any of claims 1 - 3, which is provided with a first failure avoiding means capable of increasing the necessary volume Kp of operation as the failure avoiding means.

5. A motion picture encoding or decoding system according to claim 4, wherein the first failure avoiding means multiplies the necessary volume Kp of operation by m (m denoting a real number of not less than 1) or adds to the necessary volume Kp of operation a real number n which is larger than 0.

6. A motion picture encoding or decoding system according to any of claims 1 to 5, which is provided with a second failure avoiding means capable of performing an

operation of avoiding the failure situation when the operation of encoding the one frame is not completed within the duration Te allocated in advance to the operation of encoding or decoding the one frame as the failure avoiding means.

7. A motion picture encoding or decoding system according to claim 6, wherein the second failure avoiding means effects interruption in the encoding operation at a prescribed timing and, when macro blocks not yet encoded arise, subjects the macro blocks to forcedly not-coded blocks.

8. A motion picture encoding or decoding system according to claim 6, wherein the second failure avoiding means effects interruption in the encoding or decoding operation at a prescribed timing and, when the residual portion of the necessary volume Kp of operation at the point of the interruption is smaller than the residual portion of the necessary volume of operation actually necessary for the encoding or decoding operation, increases the operating frequency and the operating voltage of the processor.

9. A motion picture encoding or decoding system according to any of claims 1 to 8, wherein the processor possesses operable operating frequencies prepared in r steps (r denoting an integer of not less than 2), calculates the operating frequency Fe necessary for processing the necessary volume of operation within the duration Te in accordance with the formula, Fe = Kp/Te, and decides the operating frequency F exceeding the necessary operating frequency Fe and approximating most closely to the operating frequency Fe from the operable operating frequency.

10. A motion picture encoding or decoding method, characterized by using a processor for encoding or decoding motion pictures formed of a plurality of frames in the unit of frames and possessing at least one failure avoiding means adapted to calculate a necessary volume Kp of operation required for encoding or decoding one frame, decide an operating frequency F capable of encoding or decoding the necessary volume Kp of operation within a duration T e allocated in advance to the operation of encoding or decoding the one frame, perform the operation of encoding or decoding the one frame while continuing the operation of the processor at the operating frequency F and an operating voltage V befitting the operating frequency F, and avoid the failure situation which occurs when the necessary volume Kp of operation is smaller than the actually necessary volume of operation.

11. A motion picture encoding or decoding method according to claim 10, wherein the necessary volume Kp of operation to be used in implementing the operation of encoding motion pictures on the assumption that the frame in the plurality of sequential frames which is subjected to the encoding operation prior to the aforementioned one frame is designated as the preceding frame is calculated by using at least one of the elements comprising the amounts of motion of the aforementioned one frame and the preceding frame, the amount of activity of the aforementioned one frame, the amount of activity of the preceding frame, the average value of the quantized step size of the preceding frame, the difference between the average value of the quantized step size of the preceding frame and the average value of the quantized step size of the frame further preceding the preceding frame, the number of times of macro block matching of the preceding block, the number of valid blocks of the preceding frame, the number of valid coefficients of the preceding frame, the volume of operation actually required in encoding the preceding frame, the number of bits occurring in the preceding frame, the encoding bit rate of the aforementioned one frame, the frame encoding type selected between the intra frame encoding and the inter frame encoding t be performed on the aforementioned one frame, and the necessary volume of operation for the preceding frame.

12.. A motion picture encoding or decoding method according to claim 10, wherein the necessary volume Kp of operation to be used in implementing the operation of decoding motion pictures on the assumption that the frame in the plurality of sequential frames which is subjected to the decoding operation prior to the aforementioned one frame is designated as the preceding frame is calculated by using at least one of the elements which comprise the number of bits of the encoding data of the aforementioned one frame, the kind of operation selected between the intra frame encoding and the inter frame encoding which has been performed in the aforementioned one frame, the average value of the magnitude of motion vector of the aforementioned one frame or the preceding frame, the dispersion of the magnitude of the motion vector of the aforementioned one frame or the preceding frame, the number of valid blocks of the aforementioned one frame or the preceding frame, the number of valid coefficients of the aforementioned one frame or the preceding frame, the bit rate of the aforementioned one frame or the preceding frame, the amount of codes of the aforementioned one frame or the preceding frame, the average

value of the quantized step size of the aforementioned one frame or the preceding frame, the difference of the average values of the quantized step size (the difference between the quantized step sizes of the aforementioned one frame and the frame further preceding the preceding frame or the difference between the quantized step size of the frame preceding by one frame and the quantized step size of the frame preceding by two frames), the necessary volume of operation actually required for decoding the preceding frame, and the necessary volume of operation for the preceding frame.

13. A motion picture encoding or decoding method according to any of claims 10 to 12, which is provided with a first failure avoiding step capable of increasing the necessary volume Kp of operation as the failure avoiding step.

14. A motion picture encoding or decoding method according to claim 13, wherein the first failure avoiding means multiplies the necessary volume Kp of operation by m (m denoting a real number of not less than 1) or adds to the necessary volume Kp of operation a real number n which is larger than 0.

15. A motion picture encoding or decoding method according to any of claims 10 to 14, which is provided with a second failure avoiding means capable of performing an operation of avoiding the failure situation when the operation of encoding the one frame is not completed within the duration Te allocated in advance to the operation of encoding or decoding the one frame as the failure avoiding means.

16. A motion picture encoding or decoding method according to claim 15, wherein the second failure avoiding means effects interruption in the encoding operation at a prescribed timing and, when macro blocks not yet encoded arise, subjects the macro blocks to forcedly not-coded blocks.

17. A motion picture encoding or decoding method according to claim 15 or claim 16, wherein the second failure avoiding means effects interruption in the encoding or decoding operation at a prescribed timing and, when the residual portion of the necessary volume Kp of operation at the point of the interruption is smaller than the residual portion of the necessary volume of operation actually necessary for the encoding or decoding operation, increases the operating frequency and the operating voltage of the processor.

18. A motion picture encoding or decoding method according to any of claims 10 to 17, wherein the processor possesses operable operating frequencies prepared in r steps

(r denoting an integer of not less than 2), calculates the operating frequency Fe necessary for processing the necessary volume of operation within the duration Te in accordance with the formula, Fe = Kp/Te, and decides the operating frequency F exceeding the necessary operating frequency Fe and approximating most closely to the operating frequency Fe from the operable operating frequency.